

STAR TPC MWPC production internal review report

The STAR-iTPC MWPC production internal review was held in Shandong University, Jinan on August 3rd 2016. Review committee members include: Jin Li (IHEP,CAS), Zi-zong Xu(USTC), Yi Wang(Tsinghua U.), Jian-song Wang(IMP, CAS), Li-min Duan(IMP,CAS).

The committee also provided some detail comments and suggestions, which include:

1. Checking the shield wire tension before and after wire mounting. If the tension changed, provide specific solution. -to be done
2. Considering the pressure change in shipping period, and one possible method is linking the shipping box to a plastic bag. -to be done
3. Considering to do some shaking test to confirm the shipping safety. -to be done
4. Use quick dry epoxy on wire frame to speed up the production. -OK
5. Prepare detail fix method for broken wire, epoxy dropping on wire or pad plane, need to make some pre-arranged planning and do some exercise. -Done
6. Make good communication with US side, make sure all requested assembly material arrive on time without delay. Avoid waiting too long at the beginning and work in hurry in the end. -OK
7. After assembly cleaning, use nitrogen instead of clean air to clean the sector. -Done
8. Use fingerstall or glove when working on wire. -Done
9. Wire winding should be done in a relative clean room. -Done
10. Specific storage room. Suggest storing the strongback “standing up” to avoid the impaction from un-flat ground. -OK
11. Soldering must use 100% pure alcohol for cleaning. -to be done
12. After anode wire mounting, power the HV, test leak current and possible spark. -OK
13. Hire professional soldering engineer. Considering contact local State Commission of Science and Technology for National Defense Industry (COSTIND) to ask for help. -try both ways (training & hire)
14. May use flexible PCB for field cage. -OK
15. If STAR had spare TPC sector, move it to SDU and test it with new produced sector for comparison. -OK
16. Consider the tax free possibility and procedure for shipping. -OK
17. During working period, be careful with temperature and humidity. Especially in extreme weather condition, need to check more carefully or avoid working in such cases. -OK
18. Suggest to use new quick dry epoxy which ALICE TPC used to speed up the production, if new epoxy passes the Canary chamber test. -OK
19. The do's and don'ts and production precision request should be listed separately. -OK
20. When started the official production, the most important thing is the production itself. Don't need to care too much about working speed at the beginning. -OK